

Appln. Serial No. 10/697,154
Amendment dated 9/22/05
Reply to Office action of 06/22/2005

Amendments to the Specification

Please amend the specification as follows:

Page 5, cancel lines 2-20, and substitute the following specification therefore:

Referring first more particularly to Figs. 1 and 2, the slam latch and strike assembly of the present invention includes a latch member 2 that is operable to engage a vertical strike member 4, thereby to latch together a pair of support members as will be described below in connection with Fig. 34. The latch member 2 is mounted for horizontal sliding displacement within a notch 6 contained in the bottom end of a tubular body 8 below the horizontal intermediate divider wall portion 8d. A compression spring 10 biases the latch member 2 from a retracted position within the central chamber 12 of the body 8 toward the extended position illustrated in Fig. 1. A handle 16 is pivotally connected with the body 8 by means of a pivot shaft 18 that extends through corresponding openings 20 contained in the body 8. The pivot shaft 18 has a non-circular cross-sectional configuration upon which is concentrically and non-rotatably non-rotatably mounted the pinion gear 22. Resilient O-ring seals 24 are provided on the shaft 18 at either end of the pinion gear 22, thereby to seal the upper portion of the assembly above the intermediate divider wall 8d[.]. The teeth 25 of the pinion gear 22 engage corresponding teeth 26 of rack 28 that is connected for sliding movement in one direction relative to the latch 2. A bottom plate 30 is removably connected with the bottom end of the body 8 by means of screws 32, and annular gasket 34 and lock nut 36 are adapted to be mounted concentrically about the body 8 as will be discussed in greater detail below.

Page 5, line 21 to page 6, line 4, cancel the text, and substitute the following paragraph therefore:

Referring now to Figs. 4-9 3-9, the body member 8 is of generally tubular construction and includes an annular outwardly directed upper flange portion 8a, an externally threaded tubular wall portion 8b, and an internally enlarged portion 8c in the chamber 12 defined above the divider wall portion 8d. The lower end of the wall portion 8b contains the vertical slot notch 6 that receives the latch member 2 of Fig. 2. As best shown in Figs. 4, 8, and 9, the transverse bore 20 that receives the pivot shaft 18 extends through the enlarged body portion 8c contained within the body 8. Handle stop portion 8e is provided within upper chamber 12 adjacent the intermediate wall 8d.

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Page 6, cancel lines 8-17, and substitute the following paragraph therefore:

Referring now to Figs. 10-12, the first strike embodiment 4 has a circular cross-sectional configuration and is provided at its upper end with a round head portion 4a that contains a through bore 42, the opposite end of the strike being counterbored to define the counter bore 44. In accordance with a characterizing feature of the present invention, the circular strike 4 is provided with a series of vertical vertically-spaced strike teeth 46. As best shown in Fig. 11a, the strike teeth have transverse transversely-extending tip portions 46a and valley portions 46b that are contained in vertically spaced horizontal planes, respectively, and are curved, since they are on the concentric outer surfaces of the strike member 4. The ratcheting configuration of the strike teeth is such that the flat portion 46c is generally horizontal, and the angular portion 46d extends at an angle of about 45 degrees relative to the horizontal tooth portion 46c.

Page 7, cancel lines 13-26, and substitute the following paragraph therefore:

Referring now to Figs. 25-29, the latch member 2 includes at one end a latch portion 2a provided with a series of vertically arranged ratcheting latch teeth 66 the configuration of which corresponds with the strike teeth 46 of Fig. 11a. At its other end, the latch is provided with a projecting portion 2b that extends horizontally in spaced relation above the finger grip portion 2c of the latch, as best shown in Fig. 27. The right hand end of the latch member is provided with a recess 68 for receiving the other end of the compression spring 10. At each side, the latch is provided with guide grooves 70 that slidably receive the edges of the slot 56 defined in the bottom plate 30. The upper side surfaces of the latch are guided between the guide means 52 on the bottom plate, thereby to accurately guide the latch for displacement relative to the slot 6 contained in the body 8. The finger-operable release portion 2c is provided with a roughed roughened surface 4d 2d for manual displacement of the latch toward the released position by an operator within the space defined by the support members, as will be described below.

Page 8, lines 1 to 7, cancel the text and substitute the following paragraph therefore:

Referring now to Figs. 30-33, the rack member 28 provided with the rack teeth 26 is of general rectangular configuration, and includes an opening 74 that receives the resilient tongue portion 28a which has a downwardly directed concave surface, as best shown in Fig. 33. The lateral wings 76 of the tongue portion 28a 76 are adapted for insertion within the corresponding

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spaces 80 defined on opposite sides of the latch projecting portion 2b, as shown in Figs. 25 and 34, thereby to afford limited longitudinal displacement of the latch relative to the rack member 28.

Page 8, line 8 to page 9, line 2, cancel the text and substitute the following paragraph therefore:

Referring now to Fig. 34, the slam latch means of the present invention is utilized to fasten together a pair of generally parallel relatively laterally moveable support members 90 and 92. Thus, the body member 8 is mounted within a hole 94 that is formed in the first support member 90, the flange portion 8a being seated on the gasket 34 seated the upper surface of the support member 90. The lock washer 36 is threadably connected with the externally threaded outer surface of the body 8 to compress the gasket 34 against the upper surface of the first support member 90. When the latch member 66 is in its illustrated extended position of Fig. 34, the latch teeth 66 engage the strike teeth 46 on the strike member 4 that is rigidly connected with the second support member 92 by screw 96[.]. In accordance with a safety feature of the invention, the latch member 2 may be manually displaced axially to the right toward the disengaged position relative to the strike member 4 manually by engagement of the finger portion 2d 2c. Alternatively, the latch may be displaced toward the disengaged position by raising the handle 16 to simultaneously rotate the pinion gear 22, thereby to displace rack 25 and latch 2 to the right toward their disengaged positions. The latch member 2, of course, is displaceable to the right toward the disengaged retracted position against the biasing force of spring 10 until the end extremity of the wing 76 engages the stop surfaces 2d 2e on the projecting portion 2b of the latch member 2. The first support member 90 generally has a thickness of about 1/8" to about 3/4"[.] And and the diameter of the opening 94 is about 2".

Page 9, lines 3 to 9, cancel the text and substitute the following paragraph therefore:

As shown in Fig. 25, in accordance with a characterizing feature of the present invention, the transverse end surfaces of the peaks and valleys of the latch teeth 66 are convex and are curved in an arcuate manner in their respective horizontal planes. Thus, the tips of the latch teeth 66 are curved by the radius R₁ and the valleys of the latch teeth are curved about the radius R₂. Thus, the curved arcuate latch teeth 66 cooperate with the correspondingly curved circular teeth 46 on the strike 4, thereby to compensate for minor misalignment between the latch and the strike, thereby affording the in accordance with a major advantage of the present invention.

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Page 9, cancel lines 10-25 and substitute the following paragraph therefore:

Referring to now Figs. 36-38 35-38, instead of a round strike member 4 shown in Figs. 10-12, the strike member 104 may have a generally rectangular cross-sectional configuration with a rectangular top portion 104a. In this case, the lateral face 104b of the latch strike member 104 that is adjacent the latch member 2 is convex, and the latch strike teeth 166 have tips and valleys that are curved by the radii R_3 and R_4 , respectively. The configuration of the latch teeth 66 of Fig. 27 and the latch strike teeth 166 of Fig. 38 correspond with the configuration of the strike teeth 46, as shown in Fig. 11a. Thus, the ratcheting strike and latch teeth have a one-way longitudinal cross-sectional configuration, thereby to define a slam latch that permits the first support member 90 to be displaced laterally toward the coplanar position 90 with the second support 92 as shown in Fig. 34, but displacement of the first support member 90 in the opposite direction is prevented by the one-way configuration of the strike teeth and the latch teeth. Thus, to open the first support member 90, the latch 2 must be displaced to the right and in Fig. 34 either manually by operation of the finger grip 2d, or by operating the release lever 16 to pivot the pinion 22 to cooperate with rack 26 and thereby displace latch 2 to its retracted position against the biasing force of compression spring 10.

Page 16, cancel the Abstract of lines 2-14, and substitute the following paragraph therefore:

Abstract

A slam latch and strike assembly for latching together a pair of generally parallel relatively laterally displaceable support members, including a body adapted for connection with one of the support members, a latch member mounted for axial displacement between extended and retracted positions in a transverse opening contained in the body member, a spring biasing the latch member toward the extended position, and a strike member mounted on the other support member adjacent the free end of the latch member when the latch member is in the extended position, the strike and latch members carrying sets of strike teeth and latch teeth that are normally in engagement when the latch is in its extended position, the tips and valleys of the teeth of at least one of the latch and strike teeth sets being having curved and convex transverse profiles, thereby to compensate for minor misalignment between the strike and latch members.